



Cooling and warming

Some materials go soft when they are warmed up, and go hard when they cool down.



A few materials, such as ice, change suddenly from solid to liquid. But most materials change more gradually. As they become warm, they get soft. Finally, when they melt, they become runny.

Butter is soft when it is warm. It is hard when it is cold and will not spread on bread. If butter gets very warm, it melts and becomes runny.



A wax seal. Seals are made by melting red sealing wax with a flame. A ring, or some other object with markings on, is pressed into the wax while it is soft.

Softening can be useful or a nuisance. For example, it is useful to soften chocolate when making a cake. It is a nuisance to have soft chocolate when you are trying to eat a chocolate bar.

Chocolate is soft when it is warm. If you put it in the fridge it becomes hard. If you heat chocolate it melts.



A burning candle wick melts the wax. The wax flows down the sides of the candle. It cools as it flows and then sets hard again, making wax 'icicles'.

Can you think of any materials that do not change when they are cooled or warmed?